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25 YEAR RE-REVIEW

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USAF review completed.

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3. NII VVS consists of several affiliated installations, all of which are located in the Moscow area. The main office or directorate is located at Ovramenskoye airfield about 60 or 70 kilometers due east of Moscow not absolutely certain of the name but am positive of the approximate distance and direction.

4. in approximately 1940, a project was initiated for 25X1
the development of a radio controlled pilotless aircraft. The aircraft used for this project was a new bomber-type design about the size of a C-47 with provisions for both piloted and radio control flight. The general configuration and other descriptive details of the airplane were not known. The aircraft was radio controlled from a ground station, and the operating range of the radio equipment was about 150 kilometers. this range had been reached during tests, and may have even been extended beyond that distance 25X1
since the aircraft was demolished in late 1940 by a crash that occurred 220 to 250 kilometers from the ground station. This project was cancelled at the outbreak of World War II because of higher priority work on other equipment.

5. 25X1
one identifying component of the radio ground equipment was a large radio tube as high as a tall man. The tube was estimated to be $2\frac{1}{2}$ meters high and $1\frac{1}{2}$ meters in diameter. In 1944, at Chkalovskaya airfield, about 25X1
35 kilometers NE of Moscow, pointed out the building which had contained the ground radio equipment used for these radio control tests. Since the area was under guard at that time, unable to determine if 25X1
the equipment was still inside. The NII affiliate responsible for testing the radio controlled aircraft was located at this field.

6. project was reactivated after World War II, with the main 25X1
emphasis on the extension of radio control range.

7. During the early part of 1949, a lecture given by Engineer Captain Leonid Shulman, middle name unknown, on the subject of guided projectiles and bombs. The lecture was given at Brandenburg-Industrihafen airfield to command and staff officers of the division for information and educational purposes. The lecture consisted of three parts, an introduction consisting of missile background information; the theory of application of guided weapons; and a description of the various types of equipment and methods employed for controlled projectiles and bombs. Engineer Captain Shulman stated that, in the past, German scientists had been working on guided weapons at the same time as Soviet scientists, and at one time were somewhat more advanced in this field, but this was no longer true. The equipment to be discussed in the lecture represented the latest innovations in the guided missile field and was of Soviet origin. claims of a 25X1
similar nature were overenthusiastic and quite often not true. Only air-to-air and air-to-surface guided weapons were discussed since surface-to-surface and surface-to-air types were not the responsibility of the Air Forces. 25X1
the V-1 and V-2 surface-to-surface types were included in the background discussion, and the G-2 (Soviet improved version of the V-2) and the German air-to-air missile, the X-4, were mentioned. There was no reference to surface-to-air types.

8. [redacted] the air-to-air missile portion of the lecture covered more than one type of guided projectile. These projectiles could be guided in flight; had no wire link between the missile and launching aircraft; and had a pyrotechnic charge for the initial launching to give them a greater speed than the carrier aircraft. [redacted] these projectiles operated on the same principle as the "Katyusha" rocket, were equipped with a combination contact and time fuze, and had a radar head. In the event the projectile missed the garget, the time fuze would detonate the warhead before the missile reached the ground. The purpose of the radar head was not known. The pilot of the launching aircraft had an instrument, details unknown, with which he could observe both the weapon and the target, and thereby direct the course of the projectile. The guidance system was a visual type, and could not be used at night unless the target was illuminated by search-lights. The status of these missiles was not given, and [redacted] they could have been in a design study stage, available in production quantities, or at any phase in between.

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9. The guided bomb-type of air-to-surface missile was also discussed. [redacted] more than one was described. All of the types discussed had the same basic design, the major difference was in the size, and there were some minor configuration changes in each case. These differences appeared to be dependent on the type of aircraft; i e, fighter, ground attack, or bomber, that was to carry the bomb. These guided bombs were equipped with a radar head, which was a part of a radar control link. However, the functional operation of the head was not known. [redacted] a radar bombsight for bombing through overcase. [redacted] these bombs might be used in conjunction with the bombsight, but additional radar equipment was required for the control of the bomb. [redacted] the use of this bomb at night would require some type of illumination for the target. [redacted] the detonators in the bombs were of the impact type, but some had an additional device, called a distance detonator and operated by an air pressure principle, that set off the bomb at a given altitude.

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10. [redacted] the bomb was about the same size as the standard FAB-250 aircraft bomb. This bomb is approximately 85" long and 20" in diameter. The size was not indicative of the weight, and the weight of the guided bomb may have varied considerably from that of the FAB-250. [redacted] no details on the control surfaces other than they were of a modified configuration for control of the bomb. [redacted] the bomb had no propulsion unit. The missile control panel was located beside the bombsight in the carrier aircraft. The control link was radar, and [redacted] azimuth and range corrections, both right - left and increase-decrease range signals, could be sent to the bomb.

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11. [redacted]

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